

↗ 3. (Amended) The liquid jetting apparatus as set forth in claim 22, wherein the potential difference of the first contracting element is not greater than 50% of the potential the drive signal; and

wherein a potential difference of the second expanding element is not less than 40% of the potential difference of the drive signal.

5. (Amended) The liquid jetting apparatus as set forth in claim 22, wherein the second expanding element is supplied for a time period which is not greater than one quarter the natural vibration period of the pressure chamber.

6. (Amended) The liquid jetting apparatus as set forth in claim 22, wherein a gradient of the second expanding element is greater than a gradient of the first contracting element.

9. (Amended) The liquid jetting apparatus as set forth in claim 22, wherein a potential difference of the second contracting element is not less than 75% of the potential difference of the drive signal.

13. (Amended) The liquid jetting apparatus as set forth in claim 22, wherein the drive pulse includes: a damping hold element, which holds a termination end potential of the second contracting element for a predetermined time period; and

a damping element, supplied after the damping holding element to drive the pressure generating element so as to expand the pressure chamber to a reference volume thereof.

16. (Amended) The liquid jetting apparatus as set forth in claim 22, wherein the drive pulse includes a preliminary contracting element, which drives the pressure generating element so as to contract the pressure chamber from a reference volume thereof, before the first expanding element is supplied.

22. (Amended) A liquid jetting apparatus, comprising:

a liquid jetting head, including a nozzle orifice, a pressure chamber communicated with the nozzle orifice, and a pressure generating element which varies, the volume of the pressure chamber; and

a drive signal generator, which generates a drive signal including a drive pulse, supplied to the pressure generating element, the drive pulse including:

a first expanding element, which drives the pressure generating element so as to expand the pressure chamber, so that a meniscus of liquid in the nozzle orifice is pulled toward the pressure chamber as much as possible;

a first contracting element, which drives the pressure generating element so as to contract the pressure chamber expanded by the first expanding element, so that a center portion of the meniscus is swelled in an ejecting direction of a liquid drop;

a second expanding element, which drives the pressure generating element so as to expand the pressure chamber contracted by the first contracting element, so that a marginal portion of the swelled center portion of the meniscus is pulled toward the pressure chamber; and

a second contracting element, which drives the pressure generating element so as to contract the pressure chamber expanded by the second expanding element, so that the meniscus is again urged in the ejecting direction to increase jetting speed of a satellite liquid drop which follows a main liquid drops,

VC2 > VC1  
pp wherein a contracted amount of the pressure chamber established by the second contracting element is larger than at least one of a contracted amount of the pressure chamber established by the first contracting element and an expanded amount of the pressure chamber established by the second expanding element; and P5

pp wherein the contracted amount of the pressure chamber established by the second contracting element is not larger than an expanded amount of the pressure chamber established by the first expanding element.

$$VC2 \leq VC1$$

Small